

Abstract

The invention describes a process for producing a compound of the formula  $\text{LiMPO}_4$ , in which M represents at least one metal from the first transition series, comprising the following steps: a) production of a precursor mixture, containing at least one  $\text{Li}^+$  source, at least one  $\text{M}^{2+}$  source and at least one  $\text{PO}_4^{3-}$  source, in order to form a precipitate and thereby to produce a precursor suspension; b) dispersing or milling treatment of the precursor mixture and/or the precursor suspension until the D90 value of the particles in the precursor suspension is less than  $50 \mu\text{m}$ ; and c) the obtaining of  $\text{LiMPO}_4$  from the precursor suspension obtained in accordance with b), preferably by reaction under hydrothermal conditions. The material obtainable by this process has particularly advantageous particle size distributions and electrochemical properties when used in electrodes.